

[0025] Referring to FIG. 4, hinge units 15 and 16 are arranged outside displays 11 and 12 in an axial direction. In FIG. 4, hinge unit 16 is located on the left side of displays 11 and 12 while hinge unit 15 is located on the right side of displays 11 and 12. This prevents overlapping of hinge units 15 and 16 and displays 11 and 12 in a longitudinal direction.

[0026] Thus, displays 11 and 12 are arranged near the connection portion of cases 13 and 14 avoiding hinge units 15 and 16, thereby narrowing the gap between displays 11 and 12.

[0027] Hinge units 15 and 16 are biaxial hinges having two parallel rotary shafts and are respectively connected to the two cases. Accordingly, even when cases 13 and 14 are brought close to each other, without any protrusion of hinge units 15 and 16 from a plane constituted by displays 11 and 12 opened to 180 degree angle, sufficient strength can be secured, and opening degrees can be freely set.

[0028] According to this embodiment, as shown in FIG. 2, the information processing terminal is configured so that when two cases 13 and 14 are opened to a 180 degree angle, the display side surface of cases 13 and 14 can match the surface of hinge units 15 and 16. Thus, the user can smoothly carry out a touching operation without being aware of hinge units 15 and 16 even while touching one or both of cases 13 and 14.

[0029] The used biaxial hinge is a general hinge having a hinge mechanism for associatively rotating the two rotary shafts in opposite directions by a gear or a belt. When the two rotary shafts are rotated in the opposite directions, cases 13 and 14 are opened or closed.

[0030] FIG. 5 is a view schematically showing the peripheral configuration of hinge unit 16.

[0031] Referring to FIG. 5, hinge unit 16 includes hinge unit 21 for associatively rotating two rotary shafts 22 and 23 and a wiring space 27 through which wiring 26 is passed between cases 13 and 14. This configuration enables, even without using any flat cable, laying of wiring 26 between cases 13 and 14 without increasing the thicknesses of cases 13 and 14.

[0032] When a flat cable is used, the cable is exposed in the gap between cases 13 and 14 to cause damage. This necessitates another cover for protection. On the other hand, in this embodiment, since the cable is passed through wiring space 27 of hinge unit 16, the cable is not exposed, and thus safety is assured.

[0033] Wiring 26 that passes through hinge unit 16 is a multicore shield cable formed by bundling a plurality of signal lines. By using the multicore shield cable, the noise resistance of the signal lines can be increased.

[0034] Hinge mechanism 21 for associatively rotating two rotary shafts 22 and 23 respectively connected to two cases 13 and 14 are arranged outside the axial direction in hinge unit 16. Specifically, in FIG. 5, hinge mechanism 21 is located in an upper side in hinge unit 16. Rotary shafts 22 and 23 are respectively fixed to cases 13 and 14 by fixing members 24 and 25. Wiring 26 passes through wiring space 27 inside hinge mechanism 21 in hinge unit 16. Passing wiring 26 inside hinge mechanism 21 enables prevention of interference between wiring 26 and hinge mechanism 21 or the like and shortening of the wiring length of wiring 26.

[0035] Wiring 26 is laid between hinge unit 16 and cases 13 and 14 on the extension to the inside of rotary shafts 22 and 23. Thus, the movement of wiring 26 when cases 13 and 14

are opened or closed can be limited to a minimum, and the fatigue of wiring 26 caused by opening or closing of cases 13 and 14 can be reduced.

[0036] FIG. 6 is an explanatory view showing an arrangement relationship between hinge unit 16 and other portions.

[0037] Referring to FIG. 6, switch 32 is disposed in the same position as that of hinge unit 16 in the axial direction of the rotary shaft of case 14. Specifically, in FIG. 6, hinge unit 16 and switch 32 are located side by side below display 12. By disposing hinge unit 16 below display 12 shown in FIG. 6 to bring displays 11 and 12 close to each other, a wide frame portion formed in casing 14 can be used for switch 32, and the display size can be formed large with respect to the device size by efficiently arranging hinge unit 16 and switch 32.

[0038] Referring to FIG. 6, main substrate 31 is disposed in the same position as that of hinge unit 16 in the axial direction of the rotary shaft of case 14. Specifically, in FIG. 6, main substrate 31 is located in the same position as that of switch 32 below display 12 in case 14. By disposing hinge unit 16 below display 12 shown in FIG. 6 to bring displays 11 and 12 close to each other, a wide frame portion formed in casing 14 can be used for main substrate 31, and a display size can be formed large with respect to the device size by efficiently arranging hinge unit 16 and main substrate 31.

[0039] Further, referring to FIG. 6, in the axial direction, hinge units 15 and 16 are located on both sides of displays 11 and 12. Main substrate 31 is located on one side of displays 11 and 12. The distance between hinge unit 16 of the side where main substrate 31 is located and displays 11 and 12 is longer than that between hinge unit 15 of the side where main substrate 31 is not located and displays 11 and 12. Wiring 26 laid between cases 13 and 14 is mainly connected to main substrate 31 in case 14. Thus, by employing this configuration, on the side where main substrate 31 is located, a space for main substrate 31 can be secured, and a space for laying wiring 26 from main substrate 31 can be secured. On the other hand, on the side where main substrate 31 is not located, the frame width of displays 11 and 12 can be reduced.

[0040] The embodiment of the present invention has been described. However, the present invention is not limited to the embodiment. Various changes understandable to those skilled in the art can be made to the configuration and the specifics of the present invention without departing from the scope of the invention.

[0041] This application claims priority from Japanese Patent Application No. 2010-197815 filed Sep. 3, 2010, which is hereby incorporated by reference herein in its entirety.

1. An information processing terminal comprising:
two cases each having a touch-panel display and coupled together by a hinge unit to be openable and closable,
wherein the hinge unit is a biaxial hinge having two parallel rotary shafts respectively connected to the two cases and located outside the displays in an axial direction of the rotary shafts.
2. The information processing terminal according to claim 1, wherein surfaces of the display sides of the cases match a surface of the hinge unit when the two cases are opened to a 180 degree angle.
3. The information processing terminal according to claim 1, wherein wiring between the two cases passes through the hinge unit.